

ABSTRACT

TITLE OF THE STUDY:

“Safety and Efficacy of Dexmedetomidine on patients undergoing General Anaesthesia: A single-blinded, randomized clinical trial”.

BACKGROUND AND OBJECTIVES:

Laryngoscopy and endotracheal intubation is to be done during general anesthesia. Succinyl choline is administered just before intubation .This can lead to an increase in intra ocular pressure, heart rate and blood pressure. Succinyl choline is associated with rise in IOP which is harmful in open eye injuries. Various drugs have been used to reduce this stress response. Dexmedetomidine is an alpha2 adrenergic agonist which has sedative, anxiolytic and analgesic properties¹⁵

METHODS:

After approval of institutional ethical committee, a total of 60 patients of ASA 1 and 2 were enrolled in this study with written informed consent. Half the patients received i.v Dexmedetomidine 0.6µg/kg bolus over 10 minutes and the remaining half received same volume of normal saline similarly. Intra ocular pressure, Heart rate, mean arterial pressures and sedation scores were recorded periodically.

STATISTICAL ANALYSIS:

The data was analysed by SPSS 17.0 with independent t-test.

RESULTS:

In this single-blinded randomized study, two groups were compared for changes in IOP, HR, MAP and sedation. The group, where the selected dose of dexmedetomidine was administered resulted in a significant reduction in IOP and prevented the rise in the IOP in response to intubation. In addition, the pressor response to laryngoscopy and endotracheal intubation was also significantly attenuated. Higher doses of dexmedetomidine were associated with an additional reduction in arterial pressure and HR without any further decrease in IOP^{147,148}. Some authors find that the use of succinylcholine in open ocular trauma is controversial and an alternative anaesthetic management based on the use of non-depolarizing neuromuscular blocking agents, despite its slower onset, was suggested. To conclude, the rise of IOP with succinylcholine and endotracheal intubation can be blunted with i.v. dexmedetomidine premedication the haemodynamic stability is an additional advantage.

IMPRESSION:

Premedication with intravenous Dexmedetomidine under the dose given in the present study design attenuates the rise in intraocular pressure following succinylcholine and intubation. The attenuation of haemodynamic stress response to laryngoscopy and intubation is an additional advantage. Hence dexmedetomidine should be used as a premedicant in situation where an increase in intraocular pressure following succinylcholine and intubation is detrimental for patients.

Key words: Dexmedetomidine, general anaesthesia, intraocular pressure.